

ABSTRACT OF THE DISCLOSURE

The present invention provides a non-mouse, including human, pluripotential embryonic stem cell which can:

- (a) be maintained on feeder layers for at least 20 passages; and
- (b) give rise to embryoid bodies and multiple differentiated cell phenotypes in monolayer culture.

The invention further provides a method of making a pluripotential embryonic stem cell comprising culturing germ cells and germ cell progenitors in a composition comprising a growth enhancing amount of basic fibroblast growth factor, leukemia inhibitory factor, membrane associated steel factor, and soluble steel factor to primordial germ cells under cell growth conditions, thereby making a pluripotential embryonic stem cell.

Also provided are compositions useful to produce the pluripotent embryonic stem cells and methods of screening associated with the method of making the embryonic stem cell.